

# ABSTRACT

According to various embodiments and aspects of the present invention, there is provided a dynamically tunable thin film interference coating including one or more  
5 layers with thermo-optically tunable refractive index. Tunable layers within thin film interference coatings enable a new family of thin film active devices for the filtering, control, modulation of light. Active thin film structures can be used directly or integrated into a variety of photonic subsystems to make tunable lasers, tunable add-drop filters for fiber optic telecommunications, tunable polarizers, tunable dispersion  
10 compensation filters, and many other devices.